NEWSWEEK
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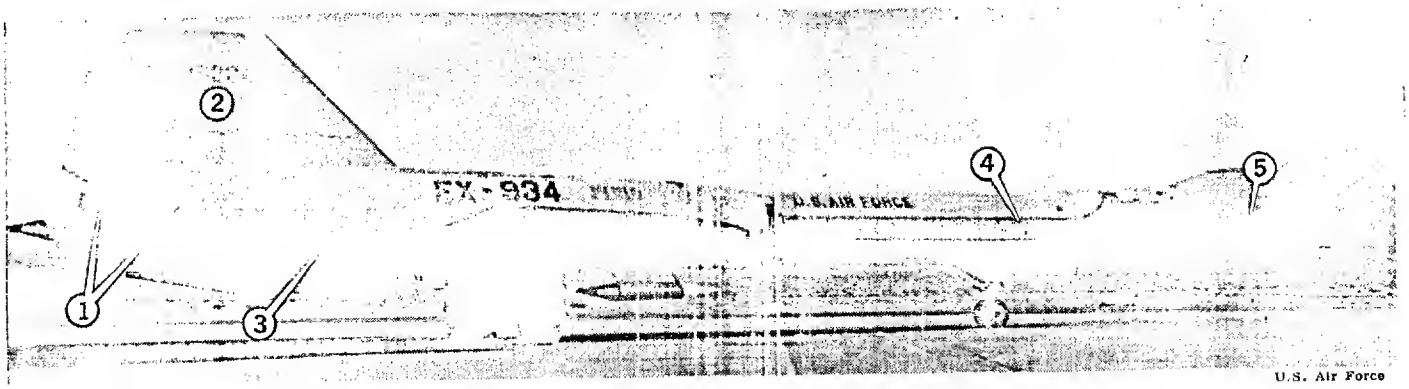



U.S. Air Force

**The Big A:** *Boasting a speed of more than 2,000 mph, range of more than 2,000 miles, length of 90 feet and weight of 90,000 pounds, the Lockheed A-11 is an aeronautical superlative. The engines ① are two powerful Pratt & Whitney J-58s, slung on either side of the fuselage. Vertical stabilizers ② on each engine may be tilted slightly as in a predecessor, the X-10 vehicle (below). The wings ③ begin halfway back on the engines, are sharply swept back, squared off at the end, and short. Wingspan is about 40 feet. The slim fuselage ④ is, in effect, one long fuel tank with sharp fairings running along the sides to house wiring and to provide some lift—just as in the X-15 rocket plane. The nose ⑤ is sharply pointed to minimize shockwave drag. Most of the craft's skin is made of titanium to resist the effects of heat.*

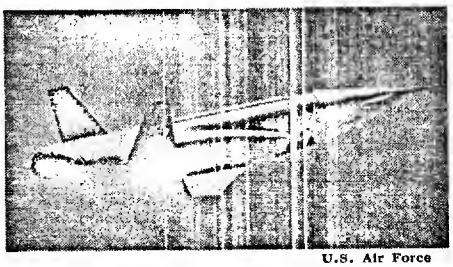
## Now You See It, Now . . .

Like the ace in a magician's palm, the A-11, the world's fastest, highest-flying jet aircraft, flashed briefly into view and then disappeared from sight last week. Ordinarily, a technological triumph of such magnitude would be followed by a blizzard of publicity releases. But nobody was saying anything about the A-11.

After President Johnson revealed the plane's existence at a news conference on Feb. 29, he issued strict orders to all those involved not to answer questions. "LBJ's message has been carved in stone for our 78,000 employes," said one official of Lockheed Aircraft, which built the remarkable new craft. No one would even explain the designation A-11 (rather than the usual X for experimental). Clearly, the government wanted to keep the A-11 under wraps. Why then did it reveal its existence in the first place? One obvious reason was that the A-11 was undergoing extensive flight tests at Edwards Air Force Base and was being picked up on civil airport radar scopes. But a study of the available evidence suggests a more complex explanation for the "now you see it, now you don't" character of the A-11.

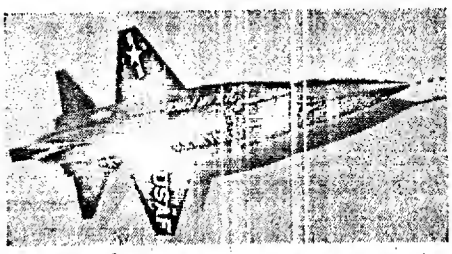
**Big Brother:** In his announcement, Mr. Johnson presented the craft as an interceptor, and Defense Secretary Robert S. McNamara restated this position in a news conference late last week. But no intereceptor has ever spent five years under such exquisite security. The estimated $500 million to build it was hidden in the Defense Department's emergency fund, and even in the Air Force only a few key officers knew of the program's existence. That, coupled with the Central Intelligence Agency's involvement in the project, leaves little doubt that the A-11 started out as a replacement for the U-2 spy plane. The U-2, still used in flights over Communist China and Cuba but not over the Soviet Union, flies at 70,000 to 80,000 feet at speeds of 500 miles an hour. Even in 1959 it was obvious this performance would not be good enough to evade the first anti-aircraft missile the Russians developed—as Francis Gary Powers learned a year later over Sverdlovsk. So the aircraft designer who built the U-2, Clarence (Kelly) Johnson, began work on a new reconnaissance plane at a Lockheed plant in Burbank known as the "skunk works" because in earlier days it smelled of airplane dope.

The U-2 was all wing--on an overflight the pilot shut off the engine and glided to conserve fuel. The new plane was conceived to be all engine, so that it could barrel straight through heavily defended areas. This requirement demanded high power. Two Pratt & Whitney J-58 engines were selected, each generating 30,000 pounds of thrust, twice that of the U-2's engine. Then Johnson built a plane around the engines, giving it a short wingspan of 40 feet (compared with the U-2's 80 feet).



U.S. Air Force

**Similarities: X-10's twin tails . . .**



. . . X-15's wing and fuselage

**Unemployed:** After Powers' flight, the U.S. promised that overflights across Soviet territory would not be resumed. The Samos satellite, in any event, was coming along to take detailed pictures of missile sites and railroad lines. As a result, the U.S. found itself in the peculiar position of possessing the finest plane in the world, with no mission for it.

But the project was not abandoned, for political situations change, and the U.S. might want to resume reconnaissance flights over the Soviet Union. Then, too, there was the promise of experience in flying a craft, made in large part of titanium, at 90,000 feet and 2,000 miles an hour. This could have relevance to the supersonic transport (SST) which cannot use aluminum, the standard airframe metal, on the leading edges, because the air friction generated at such speeds would heat it and weaken it drastically. Titanium is needed because it is heat resistant, as strong as steel, yet only 60 per cent as heavy. Equally important, the SST designers, and the Air Force, were interested in what surprises a plane moving at 2,000 miles an hour might encounter.

Finally, the A-11 would have one priceless characteristic. It is at least 400 miles an hour faster than any other U.S. fighter, and could therefore intercept an enemy bomber mere minutes after ground radar detected its presence. But

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once an A-11 has intercepted a bomber, what then?

"It is not designed to carry air-to-air missiles," one jet-fighter expert said last week. "If the missiles were carried externally at those speeds, they would heat up too much. And it would require major redesigning to carry them internally." Interceptors also require elaborate radar gear, other experts pointed out, and there doesn't seem to be any room for it. President Johnson said that the Hughes Aircraft Co. is working on a missile and fire-control system for the A-11, but the most reasonable interpretation of his statement is that Hughes is trying to see if their system, originally developed for the canceled F-108 interceptor program, can be made to fit onto the A-11.

**Strike Three?** There are other drawbacks. An interceptor must have some maneuverability and stability at all altitudes to be effective, but the A-11 was built for the straight, fast dash. Significantly, two earlier projects for 2,000-mph interceptors, the F-103 and the F-108, were canceled in favor of 1,600-mph interceptors with greater turning ability and with fast missiles. If there is any problem in defending against enemy subsonic bombers today, it is not speed. Rather, it is staying power. With a 90-minute flight time at best, the A-11 does not solve the problem.

But the A-11 solves other problems: it deprives Republican candidates and congressmen of the issue that the Administration has given up on manned flight in favor of missiles, and satisfies, on the surface at least, Air Force requests for a new intereeptor. It also announces to the world that the U.S. has a clear lead in aircraft performance. These were no doubt the fundamental reasons for permitting a glimpse of the aircraft. And yet the glimpse was brief, to conceal the gap between the A-11's reality and its suggested purpose.